Credit Supply to Bankrupt Consumers

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Federal Reserve Board

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The views presented herein are those of the authors and are not necessarily those of the Federal Reserve Board or its staff.
Research Questions

- Do banks offer any credit to bankrupt consumers?
- If yes, how do banks structure the terms of these offers?
Why Important?

- Shed light on some key issues in the consumer credit market
  - A five-fold increase in the outstanding of consumer revolving credit since early 1980s (about $900 billion in 2009)
  - A five-fold increase in personal bankruptcy filings during the same period (1.5 million in 2010)
    - 1 in 10 households has filed for bankruptcy at some point
  - Common view: Due to dramatic expansion of credit supply to risky borrowers
  - But we know little on how *credit supply* is related to credit risk
    - Largely because supply per se is often not observable (Musto (2004), Cohen-Cole, Duygan-Bump, and Montoriol-Garriga (2009), Han and Li (2010))
    - Good IVs are hard to come by
    - But it is important to identify credit supply changes separately from credit demand changes
Key Contributions of Our Paper

- We provide direct evidence on credit supply to bankrupt consumers, borrowers with the most conspicuous credit risk.
  - Using the Mintel credit card mailing data—a unique data set combining credit supply information and consumer credit history.

- Consumer bankruptcy decision
  - In theory, access to credit after bankruptcy is an important factor in bankruptcy filing decision.
  - Absent in existing studies on determinants of personal bankruptcy filing decisions.
How bankruptcy influences future supply of credit can be ambiguous

- Bankruptcy flags reveal consumer-specific risk factors that are otherwise unobservable to lenders ⇒ Reduce credit supply

- Bankruptcy discharges most unsecured debt and improves the filer’s balance sheet ⇒ Increase credit supply

- The law does not allow for repeated discharges within eight years ⇒ Supply may depend on time since filing

- Bankruptcy may change credit demand, to which credit supply may react
To mitigate the cost of default risk ⇒ Offering low credit limits
To raise profitability when credit limit offered is low ⇒ Fees
Will bankrupt consumers accept such offers? ⇒ Likely yes.
  • demand for credit to smooth consumption
  • transaction convenience
  • build credit record
In response, lenders have little incentive to sweeten offers with
  • teaser rates
  • rewards program
You deserve some credit for getting through bankruptcy

Pre-selected offer for:

You’ve earned this offer:

0% APR until May 2011

Dear

You’ve successfully moved beyond bankruptcy and deserve a new beginning.

So I’m pleased to tell you about this Capital One® Platinum MasterCard® offer. It comes with our best introductory rate and can help you rebuild credit.

You get a 0% APR until May 2011 on all purchases - so you could save money on interest.

You’ll start with a manageable credit line - some extra cushion for when unexpected expenses hit. Then you’ll be eligible for credit line increases based on credit and payment history. And you’ll never pay for charges you didn’t make - you’re covered by 50 Fraud Liability if your card is ever lost or stolen.
Yes, banks offer credit to bankrupt consumers
The offer is not a result of blanket campaign: banks seek out bankruptcy filers
It suggests that bankrupt consumers, especially those fresh filers, may be a profitable demographic to target
Data Description

- Proprietary Mintel/Comperemedia data, a monthly cross-sectional survey on credit market mailings,
- Our sample covers offers received between August 2009 and July 2010
- About 3,000 participating consumers keep mail offers they receive in a month and forward them to the data vendor at the end of the month.
- Demographic and economic characteristics of participants are also collected
- Merged with credit history for each participant, including bankruptcy information (but not chapter of filing)
Credit Card Solicitation Mail Volume

Monthly (Millions)

Source: Mintel.
### Table 1: Demographics by Bankruptcy Filing Status

<table>
<thead>
<tr>
<th></th>
<th>Mintel</th>
<th></th>
<th>SCF</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nonfilers</td>
<td>Filers</td>
<td>0-2 yrs</td>
<td>3-5 yrs</td>
</tr>
<tr>
<td>Mean age</td>
<td>52.5</td>
<td>50.4</td>
<td>48.0</td>
<td>49.9</td>
</tr>
<tr>
<td>Mean household size</td>
<td>2.6</td>
<td>2.7</td>
<td>3.0</td>
<td>2.7</td>
</tr>
<tr>
<td>Married (%)</td>
<td>60.6</td>
<td>52.8</td>
<td>63.8</td>
<td>52.0</td>
</tr>
<tr>
<td>Black (%)</td>
<td>5.7</td>
<td>8.1</td>
<td>6.9</td>
<td>10.0</td>
</tr>
<tr>
<td>High School (%)</td>
<td>32.3</td>
<td>39.6</td>
<td>37.5</td>
<td>43.8</td>
</tr>
<tr>
<td>Some College (%)</td>
<td>21.7</td>
<td>24.4</td>
<td>22.3</td>
<td>25.4</td>
</tr>
<tr>
<td>College (%)</td>
<td>37.3</td>
<td>22.0</td>
<td>25.0</td>
<td>19.1</td>
</tr>
<tr>
<td>Homeowner (%)</td>
<td>76.0</td>
<td>55.7</td>
<td>57.5</td>
<td>52.0</td>
</tr>
<tr>
<td>Number of consumers</td>
<td>42,675</td>
<td>2,377</td>
<td>487</td>
<td>657</td>
</tr>
</tbody>
</table>

Our sample has fewer than 10% bankrupt consumers because we use credit bureau data to identify bankruptcy.
Credit Score Distributions of Filers and Nonfilers Overlap

Distribution of Vantage Scores by Bankruptcy Status
Kernel Density Estimate

Filers
Non−Filers
kernel = epanechnikov, bandwidth = 12.4712

Vantage Score
Density
500 600 700 800 900 1000

kernel = epanechnikov, bandwidth = 12.4712

Vantage Score
Density
500 600 700 800 900 1000

Distribution of Vantage Scores by Bankruptcy Status
Kernel Density Estimate
Filers’ Credit Scores Improve Somewhat over Time

Vantage Score by Year since Filing

Year since Filing

Vantage Score

0 2 4 6 8 10

620 640 660 680 700

620 640 660 680 700

0 2 4 6 8 10

Year since Filing
<table>
<thead>
<tr>
<th></th>
<th>Nonfilers</th>
<th>Filers</th>
<th>0-2 years</th>
<th>3-5 years</th>
<th>6-10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total debt ($)</td>
<td>87,659</td>
<td>49,812</td>
<td>54,490</td>
<td>35,846</td>
<td>56,801</td>
</tr>
<tr>
<td>Nonmortgage debt ($)</td>
<td>21,033</td>
<td>14,255</td>
<td>11,122</td>
<td>12,744</td>
<td>16,342</td>
</tr>
<tr>
<td>Revolving debt ($)</td>
<td>9,951</td>
<td>3,586</td>
<td>2,096</td>
<td>2,933</td>
<td>4,541</td>
</tr>
<tr>
<td>Revolving credit limit ($)</td>
<td>40,545</td>
<td>7,873</td>
<td>5,510</td>
<td>6,363</td>
<td>9,652</td>
</tr>
<tr>
<td>Number of revolving accounts</td>
<td>5.9</td>
<td>3.6</td>
<td>2.2</td>
<td>3.6</td>
<td>4.3</td>
</tr>
<tr>
<td>Installment debt ($)</td>
<td>10,523</td>
<td>10,523</td>
<td>8,935</td>
<td>9,747</td>
<td>11,587</td>
</tr>
<tr>
<td>Income ($)</td>
<td>77,616</td>
<td>54,053</td>
<td>58,385</td>
<td>48,293</td>
<td>55,473</td>
</tr>
<tr>
<td>N. of del. accounts</td>
<td>0.38</td>
<td>0.77</td>
<td>1.03</td>
<td>0.58</td>
<td>0.78</td>
</tr>
</tbody>
</table>
### Table 3: New Accounts Opened and Inquiries on Credit History

<table>
<thead>
<tr>
<th></th>
<th>Timing</th>
<th>All trades</th>
<th>Bank cards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Nonfilers</td>
<td>Filers</td>
</tr>
<tr>
<td>% of consumers opened</td>
<td>previous 3 months</td>
<td>15.8</td>
<td>14.5</td>
</tr>
<tr>
<td>trades</td>
<td></td>
<td>1.2</td>
<td>1.3</td>
</tr>
<tr>
<td>Avg. num. of trades</td>
<td>previous 6 months</td>
<td>28.5</td>
<td>24.7</td>
</tr>
<tr>
<td>opened</td>
<td></td>
<td>1.4</td>
<td>1.5</td>
</tr>
<tr>
<td>% of consumers opened</td>
<td>previous 12 months</td>
<td>47.4</td>
<td>43.4</td>
</tr>
<tr>
<td>trades</td>
<td></td>
<td>1.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Avg. num. of trades</td>
<td>previous 24 months</td>
<td>70.7</td>
<td>70.6</td>
</tr>
<tr>
<td>opened</td>
<td></td>
<td>2.8</td>
<td>3.0</td>
</tr>
<tr>
<td>% of consumers w.</td>
<td>previous 6 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>credit inquiry</td>
<td></td>
<td>28.9</td>
<td></td>
</tr>
<tr>
<td>Avg. num. of</td>
<td>previous 6 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>credit inquiry</td>
<td></td>
<td>1.8</td>
<td></td>
</tr>
</tbody>
</table>


Likelihood of getting credit card offers differs across credit score distribution
Spread is greater for filers but not dramatically so.

Mean Interest Rate Spread of Credit Card Offers
By Bankruptcy Status

- Spread
- Vantage Score
- Filers: Blue line
- Non-Filers: Red line
Minimum credit limit is low for filers and does not vary across credit score distribution.
Annual fees are very common features of filers’ offers.
Filers’ offers tend to be ‘credit building’

Types of Card Offers, by Filing Status

- Plain vanilla (no reward, no fee)
- Credit building (fee, no reward)
- General market (reward, no fee)
- Premium rewards (reward, fee)
Likelihood of getting an offer does not improve over time after filing
Recent bankruptcy filers have slightly lower minimum limits.

Mean Minimum Limit of Credit Card Offers
By Time after Bankruptcy

Red line denotes non-filer average.
Recent bankruptcy filers have slightly higher spreads

Mean Interest Rate Spread of Credit Card Offers
By Time after Bankruptcy

Red line denotes non-filer average.
Recent bankruptcy filers are much more likely to have an annual fee
Variables of interest $\in \{ \text{Received offer; Interest rate spread; Credit limit; Have teaser rate offer; Have annual fee; Have rewards program} \}$

Var. of interest

\[ = F(\text{filer, credit score, demographics, balance sheet}) \]

Var. of interest

\[ = F(\text{time since filing, credit score, demographics, balance sheet}) \]
<table>
<thead>
<tr>
<th>Independent var.</th>
<th>Having offer (1)Probit</th>
<th>Pre-approved (%)(2) Probit</th>
<th>Interest spreads (3) OLS</th>
<th>Min. limit (4) OLS</th>
<th>Having intro (5) Probit</th>
<th>Having annual fee (6) Probit</th>
<th>Having rewards (7) Probit</th>
</tr>
</thead>
<tbody>
<tr>
<td>filer</td>
<td>-0.068***</td>
<td>-0.134***</td>
<td>0.773***</td>
<td>-472***</td>
<td>-0.129***</td>
<td>0.129***</td>
<td>-0.429***</td>
</tr>
<tr>
<td></td>
<td>(0.011)</td>
<td>(0.024)</td>
<td>(0.097)</td>
<td>(68.7)</td>
<td>(0.018)</td>
<td>(0.018)</td>
<td>(0.021)</td>
</tr>
<tr>
<td>controlled for</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>credit scores?</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>demographics?</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>balance sheets?</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>mean of dep. var.</td>
<td>0.40</td>
<td>0.47</td>
<td>13.8</td>
<td>1,636</td>
<td>0.70</td>
<td>0.26</td>
<td>0.78</td>
</tr>
</tbody>
</table>
### Table 6—By Time since Filing

<table>
<thead>
<tr>
<th>Independent var.</th>
<th>Having offer (1) Probit</th>
<th>Pre-approved (%) (2) Probit</th>
<th>Interest spreads (3) OLS</th>
<th>Min. limit (4) OLS</th>
<th>Having intro (5) Probit</th>
<th>Having annual fee (6) Probit</th>
<th>Having rewards (7) Probit</th>
</tr>
</thead>
<tbody>
<tr>
<td>filed 0-2 years</td>
<td>0.037</td>
<td>-0.138***</td>
<td>1.335***</td>
<td>-367***</td>
<td>-0.031</td>
<td>0.283***</td>
<td>-0.630***</td>
</tr>
<tr>
<td></td>
<td>(0.024)</td>
<td>(0.047)</td>
<td>(0.171)</td>
<td>(117)</td>
<td>(0.030)</td>
<td>(0.037)</td>
<td>(0.045)</td>
</tr>
<tr>
<td>filed 3-5 years</td>
<td>-0.048**</td>
<td>-0.187***</td>
<td>0.467***</td>
<td>-456***</td>
<td>-0.148***</td>
<td>0.166***</td>
<td>-0.602***</td>
</tr>
<tr>
<td></td>
<td>(0.020)</td>
<td>(0.042)</td>
<td>(0.170)</td>
<td>(113)</td>
<td>(0.032)</td>
<td>(0.032)</td>
<td>(0.033)</td>
</tr>
<tr>
<td>filed 6-9 years</td>
<td>-0.121***</td>
<td>-0.099***</td>
<td>0.595***</td>
<td>-565***</td>
<td>-0.184***</td>
<td>0.019</td>
<td>-0.276***</td>
</tr>
<tr>
<td></td>
<td>(0.014)</td>
<td>(0.035)</td>
<td>(0.145)</td>
<td>(103)</td>
<td>(0.027)</td>
<td>(0.023)</td>
<td>(0.029)</td>
</tr>
<tr>
<td>mean of dep. var.</td>
<td>0.40</td>
<td>0.47</td>
<td>13.8</td>
<td>1,636</td>
<td>0.70</td>
<td>0.26</td>
<td>0.78</td>
</tr>
</tbody>
</table>
We explore “shrouding” of the true costs of borrowing by looking at less conspicuous terms of credit card contracts.

Gabaix and Laibson (2006): Even in a competitive market, sellers may shroud terms to consumers if they are either myopic or imperfectly informed.

Mintel collects more than 90 potential attributes of any offered contract.
Filers’ offers tend to contain higher “hidden” costs than comparable nonfilers’

Balance Transfers
- Less likely to receive a promotional balance transfer period
- Shorter teaser period conditional on receiving one
- Higher balance transfer interest rate
- More likely to pay a balance transfer fee

Filers more likely to pay additional fees
- Minimum finance charge
- Monthly “maintenance” fee
- “Other” fees
Lenders extend credit to bankrupt consumers, especially to those who filed most recently.

Lenders are more cautious in extending credit to more seasoned filers.

Credit offers to bankrupt consumers tend to have lower credit limits, higher interest rates and fees, and fewer incentives.

Filers benefit less from improving their credit scores than do nonfilers.

Offers to filers contain more “hidden” costs and fees.
Future Research

- Cross-section: Is there state-level variation in offers based on bankruptcy exemptions, garnishment, house price declines, or unemployment?
- Time-series: What was the impact of the CARD Act on offers to especially risky borrowers?
- Dynamics: Competition in the market for unsecured credit